Please add new Claims 41-44 as follows:

41. (New) The information recording multibeam light source according to claim 1, wherein n = 4.

42. (New) The information recording multibeam light source according to claim 5, wherein n = 4.

43. (New) The information recording multibeam light source according to claim 21, wherein n = 4.

44. (New) The information recording multibeam light source according to claim 25, wherein n = 4.

REMARKS

Favorable reconsideration of this application as presently amended and in light of the following discussion is respectfully requested.

Claims 1-10, 21-30 and 41-44 are pending in the present application. Claims 11-20 and 31-40 have been cancelled, Claims 1, 2, 5, 6, 21, 22, 25, 26 and 29 have been amended, and Claims 41-44 have been added by the present amendment.

In the outstanding Office Action, duplicate claims were indicated; Claim 31 was objected to; Claims 1-40 were rejected under 35 U.S.C. 112, second paragraph; and Claims 1-40 were rejected under 35 U.S.C. 103(a) as unpatentable over Yamaguchi.

Regarding the indication of duplicate claims, Claims 11-20 and 31-40 have been cancelled.

Further, Claim 31 has been cancelled and therefore the objection to Claim 31 is moot.

Regarding the rejection of Claims 1-40 under 35 U.S.C. 112, second paragraph, the appropriate claims have been amended in light of the comments noted in the outstanding Office Action and as shown in the marked-up copies. Further, regarding Claim 2, for example, the outstanding Office Action states the limitation "a straight line" should read "said second straight line." However, Applicants note that the straight line discussed in Claim 2 is drawn by connecting the centers of the first and n-th light emitting points, whereas the second straight line discussed in independent Claim 1 is drawn to respective centers of a first and n-th laser beam spots. Accordingly, it is respectfully requested this rejection be withdrawn.

Claims 1-40 stand rejected on 35 U.S.C. 103(a) as unpatentable over Yamaguchi. This rejection is respectfully traversed.

The present invention as recited in Claim 1 is directed to an information recording multibeam light source including adjustment means for adjusting a position of the semiconductor laser array so as to satisfy the relation $\theta \leq \tan^{-1}\{1/(n-1)\}$, where the angle θ is defined by first and second straight lines on the recording substrate. Further, the first straight line is drawn perpendicular to a primary scanning direction and the second straight line is drawn through respective centers of a first and an n-th laser beam spots formed by projecting laser beams emitted respectively from the plurality of light emitting points. Independent Claims 5, 21 and 25 recite similar features.

For example, with reference to a non-limiting example in Figure 1, a semiconductor laser array l is provided having n (such as 4, in this example) laser beams emitted therefrom. A straight line L is drawn on, perpendicular to the primary scanning direction of, the image recording substrate 16; and another straight line L_1 is also drawn through the centers of two

beam spots ch_1 and ch_4 formed on the image recording substrate 16 by the beams emitted respectively from the first and n-th light emitting points la_1 and $1a_4$. The tilting angle θ is then defined as the angle made by the straight lines L and L_1. Further, by adjusting the alignment of the light emitting points so as to satisfy the claimed relation $\theta \leq \tan^{-1}\{1/(n-1)\}$, excellent recorded image quality is obtained without depreciable phase difference recognized visually between the four beam spots. (See page 14, lines 2-13).

Further, the laser beam spots formed on the image recording substrate 16 are aligned on a straight line approximately perpendicular to the primary scanning direction shown by the arrow A in Figure 3a (i.e., in the secondary scanning direction shown by the arrow B). Since the interval of recorded dot density is determined by the lateral magnification along the secondary scanning direction, a predetermined recorded dot density may be attained by suitably selecting a cylinder lens having an adequate magnification along that direction. (See page 16, lines 8-14).

The outstanding Office Action indicates that although Yamaguchi does not explicitly disclose the claimed relation, Yamaguchi does however indicate that such angle θR has a value well within the claimed range and cites column 9, line 41. However, Applicant notes the angle θR in Yamaguchi is an angle formed by an arrangement direction of the light emitting points of the semiconductor laser array and the main scanning direction of the semiconductor layer. However, according to the present invention, the angle θ is an angle formed by the arrangement direction of the beam spots and the secondary scanning direction (i.e., a straight line perpendicular to the primary scanning direction as recited in the claims). Further, the parameters included in the relationship in Yamaguchi are completely different from those included in the claimed invention.

Accordingly, it is respectfully submitted independent Claims 1, 5, 21 and 25 and each of the claims depending therefrom are allowable.

Further, the specification has been amended to correct minor informalities, and Applicant submits no new matter has been added.

Consequently, in light of the above discussion and in view of the present amendment, the present application is believed to be in condition for allowance and an early and favorable action to that effect is respectfully requested.

Respectfully submitted,

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IN THE SPECIFICATION

Please amend the specification as follows.

Page 9, please amend the paragraph at lines 11 to 15 as follows.

Four laser beams coexisting the beam flux are each reflected by the rotating polygonal mirror 12, converged through an image forming system consisted of an fθ lens 13 and a toroidal lens 14, then projected to form laser beam spots thorough a mirror [1B] 15 and a dust-proof glass plate 20 onto the scanning surface 22 of an image recording substrate 16 of a cylindrical photoreceptor drum.

Page 10, please amend the paragraph at lines 1 to 5 as follows.

The multibeam light source disclosed herein is used for scanning four beams, which is provided with a semiconductor laser array [~ haying] 1 having four light emitting points $1a_1$ ~ $1a_4$. The light source further includes a holder 2, a regulator/driver unit 3, a pressing member 4, a collimator lens 5, an aperture 6 and a bracket 7, to be assembled altogether in a single unit, as shown in FIG. 3A.

Page 10, please amend the paragraph at lines 6 to 12 as follows.

The semiconductor laser array 1 is installed onto at least approximately at the center of the holder 2 by tightening two screws 8. During the fixing on the holder 2, the laser array

1 is placed so that four light emitting points [late lax] $1a_1$-$1a_4$ thereof are aligned at least in approximately linear relationship to one another in the secondary scanning direction shown by the arrow B using a positioning tool (not shown). In addition, the holder 2 is provided with an interfitting portion 2a, being protruded therefrom, and the interfitting portion 2a, in turn, is provided with a partial flange 2b at the top thereof.

IN THE CLAIMS

Please cancel Claims 11-20 and 31-40 without prejudice.

Please amend the claims to read as follows.

1. (Amended) An information recording multibeam light source comprising:

a semiconductor laser array including a plurality of light emitting points in a single package, said plurality of light emitting points being formed to be positioned in linear relationship to one another and having an equidistant pitch so as to respectively emit laser beams simultaneously scanned over a recording substrate; and

adjusting means for adjusting a position of said semiconductor laser array so as to satisfy the relation $\theta \leq \tan^{-1}\{1/(n-1)\}$, where angle θ is defined by first and second straight lines on [an image] the recording substrate, said first straight line drawn perpendicular to a primary scanning direction and said second straight line drawn through respective centers of a first and an n-th laser beam spots formed by projecting laser beams emitted respectively from said plurality of light emitting points.

2. (Amended) The information recording multibeam light source according to claim 1, wherein:

said adjusting means is capable of rotating said semiconductor laser array around at least a vicinity of a midpoint of a straight line drawn by connecting the centers of said first and n-th [laser beam spots] light emitting points.

5. (Amended) An information recording multibeam light source comprising:

a plurality of semiconductor laser arrays each including a plurality of light emitting points in a single package, said plurality of light emitting points being formed to be positioned in linear relationship to one another and having an equidistant pitch so as to respectively emit laser beams simultaneously scanned over a recording substrate; and

adjusting means for adjusting each of said semiconductor laser arrays individually to a position so as to satisfy the relation $\theta \leq \tan^{-1}\{1/(n-1)\}$, where angle θ is defined by first and second straight lines on [an image] the recording substrate for each of said semiconductor laser arrays, [the] said first straight line drawn perpendicular to a primary scanning direction and [the] said second straight line drawn through respective centers of a first and an n-th laser beam spots formed by projecting laser beams emitted respectively from said plurality of light emitting points.

6. (Amended) The information recording multibeam light source according to claim 5, wherein:

said adjusting means is capable of rotating each one of said plurality of semiconductor laser arrays around at least a vicinity of a midpoint of a straight line drawn by connecting the centers of said first and n-th [laser beam spots] light emitting points.

21. (Amended) An information recording multibeam light source comprising:

a semiconductor laser array including a plurality of light emitting points in a single package, said plurality of light emitting points being formed to be positioned in linear

relationship to one another and having an equidistant pitch so as to respectively emit laser beams simultaneously scanned over a recording substrate; and

a position adjustor[, said position adjustor] configured to adjust a position of said semiconductor laser array so as to satisfy the relation $\theta \leq \tan^{-1}\{1/(n-1)\}$,where angle θ is defined by first and second straight lines on [an image] the recording substrate, said first straight line drawn perpendicular to a primary scanning direction and said second straight line drawn through respective centers of a first and an n-th laser beam spots formed by projecting laser beams emitted respectively from said plurality of light emitting points.

22. (Amended) The information recording multibeam light source according to claim 21, wherein:

said position adjustor is capable of rotating said semiconductor laser array around at least a vicinity of a midpoint of a straight line drawn by connecting the centers of said first and n-th [laser beam spots] light emitting points.

25. (Amended) An information recording multibeam light source comprising:

a plurality of semiconductor laser arrays each including a plurality of light emitting points in a single package, said plurality of light emitting points positioned in linear relationship to one another and having an equidistant pitch so as to respectively emit laser beams simultaneously scanned over a recording substrate; and

a position adjustor[, said position adjustor] configured to adjust each of said semiconductor laser arrays individually to a position so as to satisfy the relation $\theta \leq \tan^{-1}\{1/(n-1)\}$, where angle θ is defined by first and second straight lines on an image recording substrate for each of said semiconductor laser arrays, [the] said first straight line drawn perpendicular to a primary scanning direction and [the] said second straight line drawn

through respective centers of a first and an n-th laser beam spots formed by projecting laser beams emitted respectively from said plurality of light emitting points.

26. (Amended) The information recording multibeam light source according to claim 25, wherein:

said position adjustor is capable of rotating each one of said plurality of semiconductor laser arrays around at least a vicinity of a midpoint of a straight line drawn by connecting the centers of said first and n-th [laser beam spots] light emitting points.

29. (Amended) The information recording multibeam light source according to claim 28, wherein:

said position adjustor is capable of rotating each of said semiconductor laser arrays around at least a vicinity of a midpoint of a straight line drawn by connecting the centers of said first and n-th [laser beam spots] light emitting points.

Claims 41-44 (New).